Q: What food/herbs and spices are specifically thought to be high in lead?
A: Lead is a banned substance in foods and there is no health-based standard for lead in foods or spices. Although lead can find its way into foods at any point in the supply chain, in general foods grown in the ground are higher risk for lead contamination. Here’s a partial list of foods or spices that have repeatedly been found to contain lead:
Spices from a number of countries, especially East Asia and Central Asia
- Georgian saffron, curry, fenugreek, turmeric, hot chili powder; candies from Vietnam or Mexico (particularly tamarind), lozeena (Iraqi food flavoring)

The CDC website has additional listings: https://www.cdc.gov/immigrantrefugeehealth/guidelines/lead-guidelines.html

A 10-year review of items impounded from the New York City Department of Health and Mental Hygiene is another useful resource: https://journals.lww.com/jphmp/Fulltext/2019/01001/A_Spoonful_of_Lead__A_10_Year_Look_at_Spices_as_a.11.aspx

If a food/spice item is suspected to contain lead, the parents should stop using it immediately and contact the FDA as this is agency assigned to address these issues. These types of problems can be reported to the FDA’s forensic chemistry center in Cincinnati - https://www.fda.gov/consumers/consumer-updates/fdas-forensic-chemistry-center-playing-critical-role-vaping-illness-investigation - this is also a good reason to call the local PEHSU at Cincinnati Children’s for help with this.

Q: Do you have a complete list of cosmetics (as current) that has lead in it?
A: Although lead is a banned substance in these items, there are sporadically cases of lead-contaminated cosmetics purchased through large, nationwide retailers. It is more common to see lead in “traditional” cosmetics as are used in countries in Asia and Africa. One item commonly found to contain lead has many different names: Sindoor, Kohl Kajal, Surma, Tiro, Tozali, Kwalli (all commonly used in Africa, Middle East or Asia); also progressive hair dyes (Grecian Formula – contains lead acetate).

Q: Are there other metals associated with ADHD, such as mercury?
A: Re mercury: thimerosal, which is used in some flu vaccine formulations, contains ethyl mercury. This is readily excreted from the body. The accumulative, toxic form of mercury found in certain kinds of fish, is methyl mercury. This is complex question to answer. In terms of metals, children with higher hair manganese levels (due to exposure through naturally high levels of manganese in drinking water in Quebec) were reported by their teachers to have oppositional and hyperactive behaviors. Prenatal methyl mercury exposure was associated with greater risk of ADHD-behaviors but this was confounded by the nutritional content of the fish being neuroprotective.
There is accumulating evidence that a number of other exposures are associated with ADHD in children: tobacco smoke exposure, brominated flame retardants, organophosphate pesticides (although this is confounded by fruit & vegetable consumption which appear protective), some perfluoro-alkyl substances (PFAS) and others. There is also the problem of exposure to mixtures of chemicals.
Q: Is there ways to empower parents to help catch abnormal results, or what implications of their results might be?
A: This may be best accomplished through encouraging parental access to EHR systems for lab results or office policies regarding reporting results. Educating parents about the importance of “knowing your child’s lead number” like the ODH ad campaign from several years ago was not particularly effective.

Q: Are there any statistics on lead exposure in rural areas?
A: The Ohio Department of Health collects lead testing data from across the state, but I am not aware of recently published analysis of this data. The news organization Vox worked with the University of Washington to create a national lead risk map by county [https://www.vox.com/a/lead-exposure-risk-map](https://www.vox.com/a/lead-exposure-risk-map) that might of use. The ODH lead testing recommendations takes into account previously high lead levels in a zip code as well as risk based on a predictive model. The vast majority of zip codes in Ohio are considered high risk because of this.

Q: What is the best way to reverse or treat lead exposure?
A: Although little evidence exists that the effects of lead poisoning are reversible, evidence does exist to suggest that the duration blood lead levels are elevated is more important than a single peak level. Since lead is a risk factor for learning and behavioral problems, common sense (and CDC recommendations) suggest that taking actions to support normal development – stimulating home environment, good diet, adequate rest, etc are important to mitigate the impact of lead exposure, in addition to stopping the lead exposure.

Q: If the venous lead level is > 5, does the health department automatically get in touch with the patient or do we have to do a referral?
A: The Ohio Department of Health or the delegated authority local health department will respond. Contacting the local health department about the lead exposure will vastly speed up this process. ODH estimates that 50% of the contact information is incorrect (wrong phone number in EHR, etc).

Q: Do they have regulations that require periodic testing of adults in these high risk professions?
A: Most facilities where lead exposure is known have a surveillance program; however, if there is not awareness of lead content this can be deficient. OSHA addresses these topics in occupational health for adults.